

## A NEW GENUS AND SPECIES OF THE FAMILY NESTICIDAE FROM YUNNAN, CHINA (ARACHNIDA, ARANEAE)

LIU Jie<sup>1</sup>, LI Shu-Qiang<sup>2\*</sup>

1. College of Life Sciences, Hubei University, Wuhan 430062, China

2. Institute of Zoology, Chinese Academy of Sciences, Beijing 100101, China

**Abstract** One new nesticid spider genus *Pseudonesticus* gen. nov., was erected for a new cave-dwelling species *Pseudonesticus clavatus* sp. nov. from China.

**Key words** Taxonomy, distribution, diagnosis, type, cave.

Nesticidae is a moderately diverse spider family with 218 described species in 9 genera (Platnick, 2013). They can be found in forest litter and in caves (e. g., Chen & Zhu, 2005; Liu & Li, 2013). The nesticid spider fauna of China has been poorly studied. Hitherto, only 2 genera and 16 species of nesticid spiders are recorded from China (Liu & Li, 2013; Platnick, 2013). The present paper describes a new nesticid spider genus collected in cave of Yunnan Province in China.

Specimens were examined with an Olympus SZ40 stereomicroscope; details were studied with an Olympus BX41 compound microscope. All illustrations were made using an Olympus drawing tube. Male palps and epigyna were examined and illustrated after being dissected from the spider bodies. All measurements are given in millimeters. Leg measurements are given as: total length (femur, patella, tibia, metatarsus, tarsus). Only structures (e. g., palp, legs) of the left body side were described and measured. The terminology used in text and figure legends follows Gertsch (1984), Lehtinen & Saaristo (1980) and Rodrigues & Buckup (2007). Abbreviations used in text and figures: A = atrium; C = conductor; CO = conductor opening; DP = dorsal process of paracymbium; E = embolus; MA = median apophysis; P = paracymbium; S = spermatheca; SP = scape; ST = subtegulum; T = tegulum; VP = ventral process of paracymbium.

All types of the new species are deposited in the Institute of Zoology, Chinese Academy of Sciences in Beijing (IZCAS).

### Family Nesticidae Simon, 1894

#### *Pseudonesticus* gen. nov.

Type species: *Pseudonesticus clavatus* sp. nov.

**Etymology.** The prefix ‘pseudo’ (Greek: false) alludes to the close affinity between the new genus, *Pseudonesticus*, and *Nesticus*; masculine in gender.

**Diagnosis.** *Pseudonesticus* gen. nov. is similar to *Aituaria* Esyunin & Efimik, 1998, *Carpathonesticus* Lehtinen & Saaristo, 1980 and *Nesticus* Thorell, 1869, but can be distinguished from *Aituaria* by the following character: the embolus significantly short and thin, but the embolus long, wide in *Aituaria*. It can be distinguished from *Carpathonesticus* by the following characters: 1) the embolus short, with modified apex in *Pseudonesticus* gen. nov., but the embolus short, without modified apex in *Carpathonesticus*; 2) the median apophysis long in *Pseudonesticus* gen. nov., but compact in *Carpathonesticus*. It can be distinguished from *Nesticus* by the following characters: 1) the embolus short in *Pseudonesticus* gen. nov., but long in *Nesticus*; 2) the paracymbium with a simple, pointed tip in *Pseudonesticus* gen. nov., but paracymbium distally entire in *Nesticus*; 3) epigynal plate wide anteriorly in *Pseudonesticus* gen. nov., but wide posteriorly in *Nesticus* (Le Peru, 2011; Esyunin & Efimik, 1998) (Figs 1 – 9, 12 – 14).

**Distribution.** China (Yunnan Province).

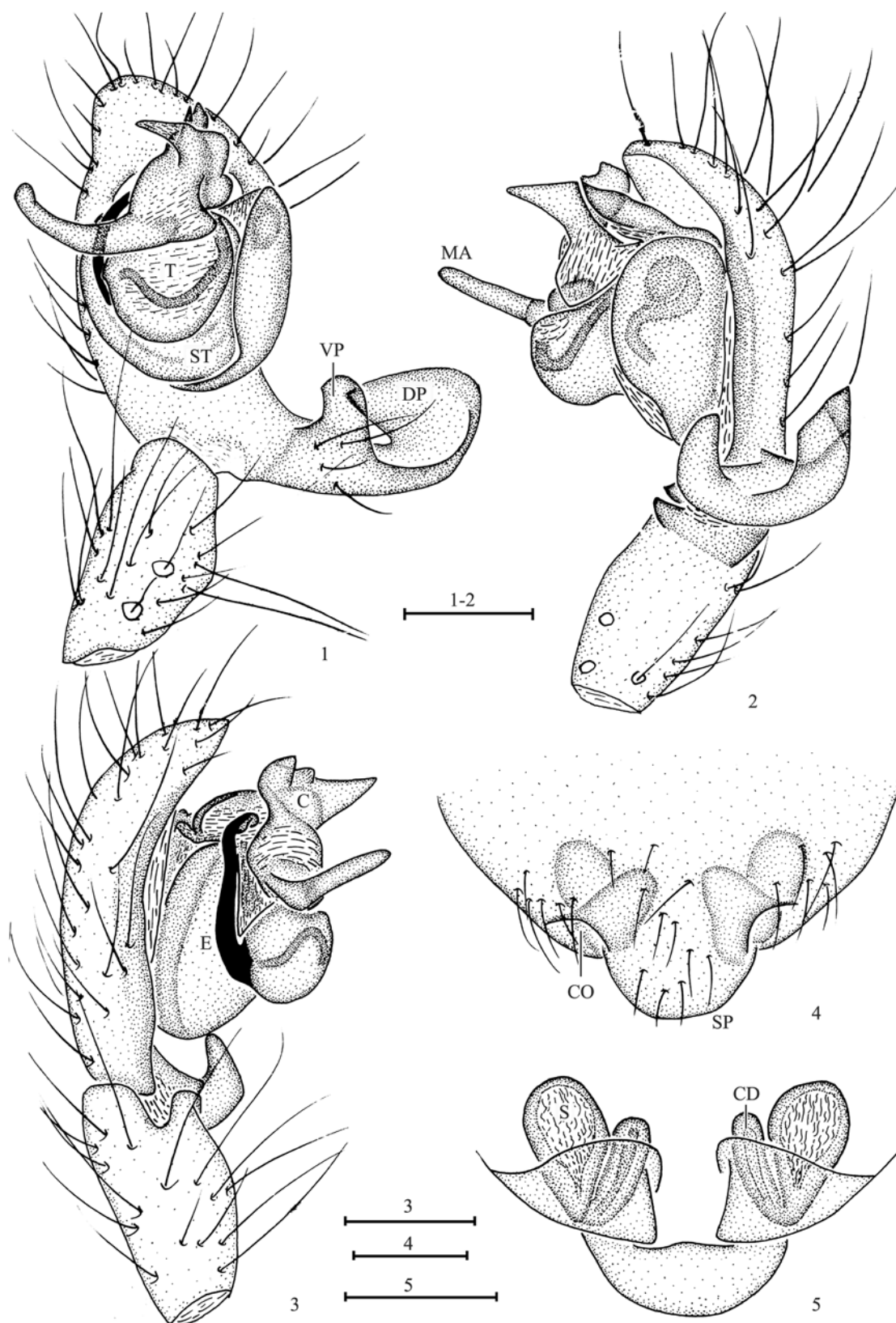
#### *Pseudonesticus clavatus* sp. nov. (Figs 1 – 14)

Holotype male, 1 male and 20 female paratypes, China, Yunnan Province, Kunming City, Xishan District, Heilinpu Town, Haiyuansi Village, E-Ren Cave (25°05'N, 102°38'E; alt. 1 930 m, Air

\* Corresponding author, E-mail: lisq@ioz.ac.cn

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Figs 1 – 5. *Pseudonesticus clavatus* sp. nov. 1 – 3. Left male palp. 4. Epigynum. 5. Vulva. 1, 4. Ventral views. 2. Retrolateral view. 3. Prolateral view. 5. Dorsal view. Scale bars = 0.2 mm.



Figs 6 – 9. *Pseudonesticus clavatus* sp. nov., left male palp. 6. Prolateral view. 7. Retrolateral view. 8. Ventral view. 9. Dorsal view. Scale bars = 0.2 mm.





Figs 10 – 14. *Pseudonesticus clavatus* sp. nov. 10 – 11. Body. 12. Epigynum. 13. Epigynum without skin. 14. Vulva. 10, 12 – 14. Female. 11. Male. 10 – 11, 14. Dorsal views. 12 – 13. Ventral views. Scale bars = 1.0 mm.

Temperature: 12°C, Air Humidity: 88 % ), 1 Apr. 2007, LIN Yu-Cheng and LIU Jie leg.

**Etymology.** The specific name is taken from the Latin *clavatus* and refers to the claviform median

apophysis of male pedipalp; adjective.

**Diagnosis.** The new species can be distinguished from other nesticid species by the very short embolus (the shortest embolus in this family) originated

prolaterally, the large scape of epigynum and the strongly curved copulatory ducts in female (Figs 1–9, 12–14).

Description of male. Total length 2.36. Prosoma length 1.12, width 1.00; opisthosoma length 1.16, width 0.88. Eyes absent. Leg formula: I, IV, II, III; leg measurements: I: 11.00 (3.16, 0.44, 3.16, 3.92, 1.32); II: 8.08 (2.60, 0.48, 2.36, 1.76, 0.88); III: 6.68 (2.12, 0.40, 1.56, 1.80, 0.80); IV: 8.76 (2.80, 0.44, 2.40, 2.12, 1.00). Somatic characters see Fig. 11. Tibia of pedipalp moderately long; paracymbium developed, with two process, ventral process large, almost rectangular, dorsal process large, with sharp end; conductor complex, without dorsal conductor apophysis; median apophysis long, claviform; tegular projection absent; embolus prolaterally in origin, short (Figs 1–3, 6–9).

Female. Measurements. Total length 3.24. Prosoma length 1.32, width 1.12; opisthosoma length 2.04, width 1.40. Eyes absent. Leg formula: I, IV, II, III; leg measurements: I: 12.84 (3.84, 0.56, 3.60, 3.24, 1.60); II: 10.48 (3.32, 0.48, 2.92, 2.64, 1.12); III: 7.80 (2.68, 0.44, 1.80, 2.16, 0.72); IV: 10.20 (3.44, 0.48, 2.88, 2.56, 0.84). Somatic characters (Fig. 10). Epigynum simple, with a tongue-shaped scape; copulatory ducts extending from copulatory openings to the spermathecae, strongly curved; spermathecae simple, almost global, situated anteriorly and laterally, widely

separated from each other (Figs 4–5, 12–14).

Distribution. China (Yunnan Province).

## REFERENCES

- Chen, H-M and Zhu, M-S 2005. A new species of the spider genus *Nesticus* from the cave of China (Araneae, Nesticidae). *Acta Zootaxonomica Sinica*, 30: 735–736. [动物分类学报]
- Esyunin, S. L. and Efimik, V. E. 1998. Remarks on the Ural spider fauna, 8. New and unidentified species from steppe landscapes of the South Urals (Arachnida: Aranei). *Arthropoda Selecta*, 7: 145–152.
- Gertsch, W. J. 1984. The spider family Nesticidae (Araneae) in North America, Central America, and the West Indies. *Bulletin of the Texas Memorial Museum*, 43: 1–91.
- Lehtinen, P. T. and Saaristo, M. I. 1980. Spiders of the Oriental-Australian Region. II. Nesticidae. *Annales Zoologici Fennici*, 17: 47–66.
- Le Peru, B. 2011. The spiders of Europe. Synthesis of data. Atypidae to Theridiidae. *Mémoire de la Société Linnéenne de Lyon*, 2: 1–522.
- Liu, J and Li, S-Q 2013. New cave-dwelling spiders of the family Nesticidae (Arachnida, Araneae) from China. *Zootaxa*, 3613 (6): 501–547.
- Platnick, N. I. 2013. The World Spider Catalog, Version 14.0. American Museum of Natural History. online at <http://research.amnh.org/entomology/spiders/catalog/index.html> (accessed 8 Sep. 2013).
- Rodrigues, E. N. L. and Buckup, E. H. 2007. O gênero *Nesticella* Lehtinen & Saaristo (Araneae, Nesticidae) no Brasil. *Revista Brasileira de Zoologia*, 24: 673–676.
- Thorell, T. 1869. On European spiders. Part I. Review of the European genera of spiders, preceded by some observations on zoological nomenclature. *Nova Acta Regiae Societatis Scientiarum, Upsaliensis*, 7 (3): 1–108.

## 中国云南类球蛛科一新属及一新种记述 (蛛形纲, 蜘蛛目)

刘杰<sup>1</sup> 李枢强<sup>2\*</sup>

1. 湖北大学生命科学学院 武汉 430062

2. 中国科学院动物研究所 北京 100101

**摘要** 记述了采自中国云南类球蛛科1新属及1新种, 棒状拟类球蛛 *Pseudonesticus clavatus* gen. nov. et sp. nov.。模式标本保存在中国科学院动物研究所。

**拟类球蛛属, 新属 *Pseudonesticus* gen. nov.**

模式种: *Pseudonesticus clavatus* sp. nov.

**词源:** 新属名称源于该属类似于类球蛛属 *Nesticus*, 词性为阳性。

**鉴别特征** 新属与该科的爱途安属 *Aituaria* Esyunin & Efimik, 1998, 里类球蛛属 *Carpathonesticus* Lehtinen & Saaristo, 1980 和类球蛛属 *Nesticus* Thorell, 1869 相似, 但可根据雄蛛触肢器插入器极短将其与爱途安属 *Aituaria* 区分, 可根据雄蛛触肢器插入器末端有突起, 中突发达等特征将其与里类球蛛属

*Carpathonesticus* 区分, 可根据雄蛛触肢器插入器极短, 副跗舟简单, 具有锋利突起, 雌蛛外雌器垂体性状等特征将其与类球蛛属 *Nesticus* 区分 (图1~9, 12~14)。

**棒状拟类球蛛, 新种 *Pseudonesticus clavatus* sp. nov.** (图1~14)

正模♂; 副模: 1♂, 20♀♀, 云南省昆明市西山区黑林铺镇海源寺村恶人洞 (25°05'N, 102°38'E; 海拔1930 m, 温度12℃, 湿度88%), 2007年4月1日, 林玉成和刘杰采。

**鉴别特征** 新种可通过雄蛛触肢器极短, 雌蛛外雌器垂体发达, 呈半圆状, 交配管极度弯曲将其与其它类球蛛区分。

**词源:** 新种种名源自拉丁词 “*clavatus*”, 棒状的, 依据新种雄性触肢器棒状中突而定; 形容词。

**关键词** 分类, 分布, 鉴别特征, 模式, 洞穴。

中图分类号 Q959.226

\* 通讯作者, E-mail: lisq@ioz.ac.cn